

REMARKS/ARGUMENTS

In the Office Action mailed July 20, 2010, claims 1-15, 18, and 20-22 were rejected. In response, Applicant hereby requests reconsideration of the application in view of the proposed amendments and the below-provided remarks. Applicant submits that the proposed amendments place the present application in condition for allowance or in better condition for appeal.

For reference, proposed amendments are presented for claims 1, 6, and 13. In particular, the proposed amendment for claim 1 is presented to clarify the references to the widths of the contact and interconnects, consistent with plain meaning of the indicated language. The proposed amendments for claim 6 and 13 are presented to recite similar limitations. These proposed amendments are supported, for example, by the context of the subject matter described in the specification, as well as the plain meaning of the existing language in the claims.

Withdrawal of Finality

Applicant appreciates the Examiner's agreement to withdraw finality of the present Office Action based on the deficiencies of the reasoning provided for the previous rejections.

Claim Rejections under 35 U.S.C. 103

Claims 1-15, 18, and 20-22 were rejected based on one or more cited references. The cited reference(s) relied on in these rejections include:

Thomas (U.S. Pat. No. 3,808,527, hereinafter Thomas)

Look et al. (U.S. Pat. No. 6,393,714, hereinafter Look)

In particular, claims 1-15, 18, and 20-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas in view of Look. However, Applicant respectfully submits that these claims are patentable over Thomas and Look for the reasons provided below.

Independent Claim 1

Claim 1 is patentable over the combination of Thomas and Look because the combination of cited references does not teach all of the limitations of the claim. Claim 1 recites:

A structure comprising:

at least one proportional variable resistor suitable for electrically measuring unidirectional misalignment of stitched masks in etched interconnect layers, said variable resistor comprising:

at least a first mask and a second mask that when superimposed comprise:

at least two test pads, wherein the two test pads are both formed by the first mask;

two interconnects between the test pads; and

a contact having a smaller width than widths of the interconnects, wherein the width of the contact is a dimension substantially orthogonal to a direction of signal propagation along the contact, and the widths of the interconnects are dimensions substantially orthogonal to directions of signal propagation along the interconnects, wherein the contact is formed by the same mask as at least one of the interconnects, wherein a resistance between the test pads is dependent on a distance along the contact between the interconnects, and the resistance is indicative of the misalignment of the first and second masks.

(Emphasis added.)

In contrast, the combination of Thomas and Look does not teach all of the limitations of the claim. For reference, the reasoning in the Office Action acknowledges that Thomas does not teach a contact formed by the same mask as at least one of the interconnects. Office Action, 7/20/10, page 3. Hence, the reasoning in the Office Action relies on Look as purportedly teaching the indicated limitations of the claim. However, Look also fails to teach a contact formed by the same mask as at least one of the interconnects.

Although the reasoning in the Office Action refers to Look as purportedly teaching the resistive element 115 formed in the same layer as one of the interconnects 105 and 110, this assertion is inconsistent with the actual teachings of Look. For

reference, Fig. 1B of Look is reproduced below, with added labels, to show the different elements 105, 110, and 115 of Look. The “contact” referred to in the Office Action is the resistive element 115 located between first and second conductive elements 105 and 110.

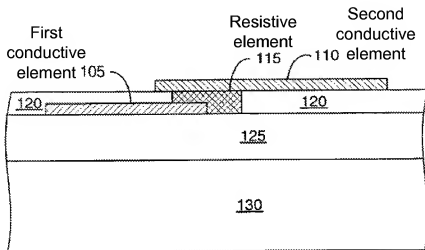


FIG. 1B

Look specifically describes the resistive element 115 partially overlapping the underlying conductive element 105. Look, col. 4, lines 17-18. Look also describes misalignment between the resistive element 115 and the conductive layers 105 and 110. Look, col. 4, lines 18-18. The amount that the resistive element 115 is misaligned with respect to the conductive layer 105 is designated as an alignment error E. Look, col. 5, lines 46-49. Fig. 3 of Look, which is reproduced below, illustrates this misalignment and the parameter E for the alignment error. In this illustration, the separate layers and elements are represented by the uniquely cross-hatched features 135, 140, and 145 (circled).

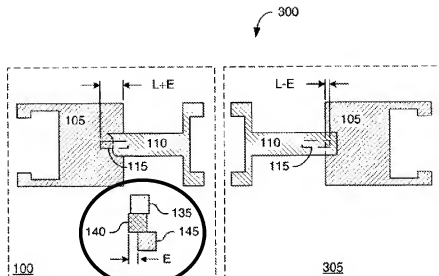


FIG. 3

Alignment Error

If the resistive element 115 were formed by the same mask as either of the conductive elements 105 and 110, then there would not be misalignment between the resistive element 105 and the conductive elements 105 and 110. However, the fact that there is misalignment between the indicated features illustrates that the corresponding structures are not formed by the same mask. Therefore, the assertion in the Office Action contradicts the actual teachings of Look because Look explicitly teaches that the resistive element 115 and the conductive elements 105 and 110 are formed by different masks.

For the reasons presented above, the combination of Thomas and Look does not teach all of the limitations of the claim because the combination of cited references does not teach a contact formed by the same mask as at least one of the interconnects, as recited in the claim. Accordingly, Applicant respectfully asserts claim 1 is patentable over the combination of Thomas and Look because the combination of cited references does not teach all of the limitations of the claim.

Independent Claims 6 and 13

Applicant respectfully asserts independent claims 6 and 13 are patentable over the cited reference at least for similar reasons to those stated above in regard to the rejection

of independent claim 1. Each of these claims recites subject matter which is similar to the subject matter of claim 1 discussed above. Although the language of these claims differs from the language of claim 1, and the scope of each claim should be interpreted independently of other claims, Applicant respectfully asserts that the remarks provided above in regard to the rejection of claim 1 also apply to the rejections of these claims.

Dependent Claims

Claims 2-5, 7-12, 14, 15, 18, and 20-22 depend from and incorporate all of the limitations of the corresponding independent claims 1, 6, and 13. Applicant respectfully asserts these dependent claims are allowable based on allowable base claims. Additionally, each of these dependent claims may be allowable for further reasons.

CONCLUSION

Applicant respectfully requests reconsideration of the claims in view of the proposed amendments and the remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-4019** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-4019** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

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